**COMMONWEALTH OF MASSACHUSETTS**
**DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY**

D.T.E. NO. 01-20

REQUEST: Verizon Massachusetts Information Requests to AT&T Communications of New England, Inc.

DATE: June 29, 2001 – Original Response
July 3, 2001 – Supplemental Response

VZ-ATT 2-19: Explain where and how HAI 5.2a calculates the investment required for test equipment (and the associated capital costs and expenses), and describe in detail the inputs and algorithms used to determine these investments and expenses.

Respondent: R. Mercer

RESPONSE: Equipment for testing is included in plant non-specific network related expenses. A description can be found in Section 6.6.3 of the HM 5.2a-MA Model Description. Calculations can be found in the Expense Module, "98 Actuals" Worksheet.

The inputs and algorithms used to determine these investments and expenses are described in detail using widely used formula employed by a well-known and popular spreadsheet software, Excel by Microsoft.

SUPPLEMENTAL RESPONSE: HM 5.2a-MA does not make explicit provision for test equipment, but captures the investments and expenses of such equipment in three different ways, depending on Verizon's treatment of those investments and expenses.

First, some test capabilities, including systems and equipment, are built into the network components that Verizon purchases, such as switching systems, transmission terminal equipment, and the like. The investment in such equipment is part of the investment in the associated network equipment, and therefore both investments and expenses are captured in the investments and expenses of those network elements.

Second, some test equipment is expensed, and the expenses are included in the ARMIS accounts of the associated network equipment. To the extent the model uses expense/investment (E/I) ratios taken from ARMIS data, either directly or through the FCC's suggested E/I ratios based on its own analysis of ARMIS data, the test equipment expenses are captured in that fashion.

Finally, to the extent Verizon utilizes operations support systems and operations networks whose investments and expenses are reported by Verizon as general purpose computers, the model assigns such general supports costs to UNEs as described in the HM 5.2a-MA Model Description, which is Exhibit RAM-2 to Dr. Mercer's Direct Testimony.

There is no test equipment category in ARMIS where Verizon reports test equipment investments and expenses, and correspondingly, HM 5.2a-MA cannot and does not capture such test equipment and systems as a separately-identified investment or expense.

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DATE: June 29, 2001 – Original Response
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VZ-ATT 2-46: Provide the following with respect to the "experienced outside plant experts" that developed the installed cost of a T1 repeater as referenced on page 41 of the Inputs Portfolio:

a. the identity of the "experts";

b. copies of all instructions, survey forms, workpapers, and documents used by the "experts" to develop the cost;

c. copies of all vendor (supplier) information provided to the "experts" to develop the cost;

d. a list of the vendors contacted;

e. a breakdown of the cost into equipment cost and installation cost;

f. the list price of the equipment before the discount was subtracted; and,

g. the discount.

Respondent: R. Mercer/J. Donovan

RESPONSE:

a. The following experienced outside plant experts worked to develop the installed cost of a T1 repeater:

Mr. Ernest Carter
Mr. John Donovan
Mr. Dean Fassett
Mr. Thomas Madden
Mr. Joseph Riolo
Mr. James Wells

b. Instructions and survey forms were not required because this work was done in direct collaboration with all six experts involved.

c. See reply to item "e" below.

d. Costs were based on Seiscor S-24DU equipment.

e. The data is shown in an attached Excel workfile included with this response.

f. See reply to item "e" above.

g. See reply to item "e" above.

SUPPLEMENTAL RESPONSE:

b. There are no instructions, survey forms or documents other than those already provided or in the public record as described in the HM 5.2a-MA HIP.

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DATE: June 29, 2001 – Original Response
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VZ-ATT 2-48: Provide the following with respect to the "experienced outside plant experts" that developed each of the installed costs of a T1 for an Integrated COT; and RT Cabinet and Commons, and a Channel Unit Investment per Subscriber as referenced on page 42 of the Inputs Portfolio:

a. the identity of the "experts";

b. copies of all instructions, survey forms, workpapers, and documents used by the "experts" to develop the cost;

c. copies of all vendor information provided to the "experts" to develop the cost;

d. a list of the vendors contacted;

e. a breakdown of the cost into equipment cost and installation cost;

f. the list price of the equipment before the discount was subtracted;

g. the discount.

Respondent: R. Mercer/J. Donovan

RESPONSE:

a. The following experienced outside plant experts worked to develop the installed cost of a T1 repeater:

Mr. Ernest Carter
Mr. John Donovan
Mr. Dean Fassett
Mr. Thomas Madden
Mr. Joseph Riolo
Mr. James Wells

b. Instructions and survey forms were not required because this work was done in direct collaboration with all six experts involved.

c. See reply to item "e" below.

d. Costs were based on Seiscor S-24DU equipment.

e. See attachment to the response to VZ-ATT 2-46.

f. See reply to item "e" above.

g. See reply to item "e" above.

SUPPLEMENTAL RESPONSE:

a. The same experts described in the original response to this information request developed installed costs for a T1 for an Integrated COT, for RT Cabinet and Commons, and for a Channel Unit Investment per Subscriber.

b. See Supplemental Response to VZ-ATT 2-46.

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D.T.E. NO. 01-20

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DATE: June 29, 2001 – Original Response
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VZ-ATT 2-50: Provide the following with respect to the "experienced outside plant experts" that developed each of the installed costs of a T1 Transceiver as referenced on page 43 of the Inputs Portfolio:

a. the identity of the "experts";

b. copies of all instructions, survey forms, workpapers, and documents used by the "experts" to develop the cost;

c. copies of all vendor information provided to the "experts" to develop the cost;

d. a list of the vendors contacted;

e. a breakdown of the cost into equipment cost and installation cost;

f. the list price of the equipment before the discount was subtracted;

g. the discount.

Respondent: R. Mercer/J. Donovan

RESPONSE:

a. The following experienced outside plant experts worked to develop the installed cost of a T1 repeater.:

Mr. Ernest Carter
Mr. John Donovan
Mr. Dean Fassett
Mr. Thomas Madden
Mr. Joseph Riolo
Mr. James Wells

b. Instructions and survey forms were not required because this work was done in direct collaboration with all six experts involved.

c. See reply to item "e" below.

d. Costs were based on Seiscor S-24DU equipment.

e. See attachment to the response to VZ-ATT 2-46.

f. See reply to item "e" above.

g. See reply to item "e" above.

SUPPLEMENTAL RESPONSE: See Supplemental Response to 2-48.

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VZ-ATT 2-53: Provide all workpapers, including any electronic files, showing the calculations that were used to develop the Pole Investments shown on page 54 of the Inputs Portfolio by using the data from the FCC web site referenced in footnote 24. Provide all the data used and explain in detail the methodology used to develop the costs shown.

Respondent: R. Mercer/J. Donovan

RESPONSE: The data is shown in an Excel workfile included with this response.

The methodology involves a direct plotting of data.

SUPPLEMENTAL RESPONSE: Section 2.41 of the HM 5.2a-MA Inputs Portfolio, Exhibit RAM-3 of Dr. Mercer's Direct Testimony, provides graphs of pole costs, the methodology used to analyze these data, and all other information necessary to understand how the input value was selected. This information is also repeated in Sections 3.1.4 and 4.4.22 of the Inputs Portfolio.

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VZ-ATT 2-57: Referring to the Inputs Portfolio, page 83, section 4.1.6., show in detail how the MDF Investment is included in the calculations for fixed and per-line switch investment. Provide all workpapers and documents concerning, referring or relating to this calculation.

Respondent: R. Mercer

RESPONSE: The FCC included MDF investment in its calculations for switch investment. Addressing this issue, the FCC stated: ". . . in order to account for the cost of MDF and power equipment omitted from the RUS information, we conclude that the cost of switches reported in the RUS data should be increased by eight percent."[1]

SUPPLEMENTAL RESPONSE: Section 4.1.9 of the HM 5.2a-MA Inputs Portfolio ("HIP") included as Exhibit RAM-3 to the Direct Testimony of Dr. Robert A. Mercer explicitly states: "This value [the fixed part of the amalgamated switch investment] is the weighted average of the FCC remote and non-remote constant terms determined by the FCC in its USF Inputs Order where the weights are a function of the mix of remotes and non-remotes in Massachusetts." It should be clear from this statement that AT&T made no analysis of switch costs separate from those done by the FCC except to weight the FCC's host/standalone and remote switch fixed investments proportionally to the relative number of host/standalone and remote switches operated by Verizon

[1] *Tenth Report and Order*, para. 305.

in Massachusetts.

Section 4.1.6 of the HIP makes it clear that there was no AT&T calculation separate from that performed by the FCC to add MDF costs to the switch investment.

Section 4.2.3 of the HIP and AT&T's initial response to this request also make it clear that there was no AT&T calculation separate from that performed by the FCC to add power costs to the switch investment.

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VZ-ATT 2-62: In HAI 5.2a, what percentage of end office switches have tandem functionality and perform tandem functions? Provide the basis upon which this percentage was determined and all documents, data sources, workpapers, and calculations concerning, referring or relating to the development of the percentage.

Respondent: R. Mercer

RESPONSE: End offices having tandem functionality is a user adjustable input. See Section 4.2.2 of the HM 5.2a-MA HIP for the recommended percentage and support.

SUPPLEMENTAL RESPONSE: In addition to providing a default percentage of 0.4, Section 4.2.2 describes the basis for that default value: "…a conservatively low estimate of the number of shared-use switches based on Bellcore's Local Exchange Routing Guide (LERG) data." There are no documents other than the LERG, which is a copyrighted Bellcore (now Telcordia) document which AT&T is not authorized to copy. The LERG is commercially available from Telcordia.

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VZ-ATT 2-70: Does HAI 5.2a assume operator tandem functionality is performed by tandems dedicated solely for the purpose of providing operator services? If your answer is yes, provide the number of tandems used by the model, and the associated investments. If your answer is no, provide a detailed explanation of how the operator services' tandem functionality is handled in the model, and provide the number of switches, types of switches, and their associated investments that provide this functionality.

Respondent: R. Mercer

RESPONSE: Operator tandems are assumed to be located where local tandems are located and function solely as operator tandems.

The number of operator tandems is not reported by HM 5.2a, but the calculation that determines the number of operator tandems and associated investment can be found in the Switching/IO Module, tandem and STP investment Worksheet.

SUPPLEMENTAL RESPONSE: The statement in AT&T's initial response that "Operator tandems… function solely as operator tandems" makes it clear that HM 5.2a-MA assumes operator tandem functionality is performed by tandems dedicated solely to the purpose of providing operator services.

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VZ-ATT 2-92: Referring to the Inputs Portfolio, page 86, Section 4.2.3, show in detail how the Power Investment is included in the calculations for fixed and per-line switch investment and provide all workpapers and documents concerning, referring or relating to this calculation.

Respondent: R. Mercer

RESPONSE: See response to VZ-ATT 2-57.

SUPPLEMENTAL RESPONSE: See Supplemental Response to VZ-ATT 2-57.